BRUHAT BENGALURU MAHANAGARA PALIKE

MEASUREMENT SHEET

RA 1ST AND FINAL BILL

Name of work: Improvements to Roads and Drains at Virupakshapura, Maramma Temple in Ward No. 09 (Vidyaranyapura).

Estimated Cost : Rs. 30.00 Lakhs

Job Code: 009-22-000007

Head of Account : P-3726 Zonal Public Works - POW Works

Name of Agency: Sri. Subba Reddy K.V, No. 106/B, Aswathnagara, RMV 2nd Stage, Bangalore - 560094.

Work order No: BBMP/EE/BTP/WO/26/2022-23 Dated: 25-04-2022.

Measurements Recarded on : 16-06-22

Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
1	Earthwork excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications.								Cum	
	Qty as per Premeasurement vide E-MB Page No. 01 to 03 is =							**271.62**	203.40	**55248.00**
2	Removing and refixing stone slabs of drains and pointing in CM (1:3)								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 04 is =							**429.30**	92.82	**39848.00**
3	Providing granite slabs of selected quality roughly dressed having a size of 7.5 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete								Sqm	
	Damaged Slabs & Missing Slabs									
	5th Main Road Dhanalakshmi Layout N/S	1	6.50				1.35	8.78		
		1	4.80				1.35	6.48		
	S/S	1	6.10				1.35	8.24		
		1	5.50				1.35	7.43		
	2nd Main Road Virupakshapura									
	N/S	1	6.50				1.35	8.78		
		1	5.80				1.35	7.83		
	S/S	1	5.60				1.35	7.56		
		1	6.10				1.35	8.24		
	Thulasi Enclave									
	N/S	1	5.50				1.35	7.43		
		1	3.60				1.35	4.86		
	S/S	1	4.10				1.35	5.54		
		1	3.80				1.35	5.13		
			Total Qty =					**86.27**		
			Qty Ltd to Tender Qty =					**85.86**	618.83	**53133.00**

AEE (VRP) SD

16/6

Assistant Engineer
Ward No. 09

Assistant Executive Engineer
Vidyaranyapura Sub Division

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
	Measurements Recarded on : 17/06/22									
4	Providing and laying **Plain cement concrete of mix 1:3:6 with with OPC cement @ 220kgs, with crushed 40mm** and down size graded granite metal coarse aggregates @0.84cum and fine aggregates @ 0.56cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days complete as per specifications								Cum	
	Qty as per Premeasurement vide E-MB Page No. 05 is =							**4.05**	4521.86	**18314.00**
5	Providing and constructing granite / trap / basalt size stone masonry in **basement with cement mortar 1:6, edges of stones** chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications.								Cum	
	Culverts 1st Course									
	2nd Main Road Virupakshapura	2	7.20			0.60	0.45	3.89		
	KVS Layout Main Road	2	4.90			0.60	0.45	2.65		
	5th Main Road Dhanalakshmi Layout	2	4.90			0.60	0.45	2.65		
	2nd Course									
	2nd Main Road Virupakshapura	2	7.20			0.45	0.45	2.92		
	KVS Layout Main Road	2	4.90			0.45	0.45	1.98		
	5th Main Road Dhanalakshmi Layout	2	4.90			0.45	0.45	1.98		
			Total Qty =					**16.07**		
			Qty Ltd to Tender Qty =					**14.18**	4847.19	**68733.00**

AEE (VRP) S

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Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
	Measurements Recarded on :	24/06/22								
6	Providing and constructing load bearing wall with solid concrete blocks of size 400x150x200 mm having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 4.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications.								Sqm	
	Flagging Course									
	2nd Main Road Virupakshapura N/S	2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	13.30				0.40	10.64		
	S/S	2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	7.20				0.40	5.76		
	Vijaya Store main Road									
	E/S	2	15.00				0.40	12.00		
		2	13.50				0.40	10.80		
		2	15.00				0.40	12.00		
	D	2	13.20				0.40	10.56		
		2	15.00				0.40	12.00		
		2	13.00				0.40	10.40		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
	S/S									
		2	15.00				0.40	12.00		
		2	13.50				0.40	10.80		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	2.00				0.40	1.60		
	Thulasi Enclave									
	N/S	2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	8.50				0.40	6.80		
	S/S									
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	8.50				0.40	6.80		
	5th Main Road Dhanalakshmi layout N/S									
	E/S	2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		
		2	9.10				0.40	7.28		
	W/S	2	15.00				0.40	12.00		
		2	15.00				0.40	12.00		

Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
		2	9.10				0.40	7.28		
	5th Main Road Dhanalakshmi layout S/S									
	E/S	2	15.20				0.40	12.16		
			Total Qty =					**508.88**		
			Qty Ltd to Tender Qty =					**508.80**	816.85	**415613.00**

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Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
	Measurements Recarded on :	29/06/2022								
7	Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregtes @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, for coping. Including cost of all materials, labour, HOM of machinery, curing complete as per specifications.								Cum	
	Vent Concrete									
	2nd Main Road Virupakshapura N/S	1	6.40			0.45	0.10	0.29		
		1	4.20			0.45	0.10	0.19		
		1	1.80			0.45	0.10	0.08		
	S/S	1	6.20			0.45	0.10	0.28		
		1	4.20			0.45	0.10	0.19		
	Thulasi Enclave									
	N/S	1	7.20			0.45	0.10	0.32		
		1	3.60			0.45	0.10	0.16		
	S/S	1	6.80			0.45	0.10	0.31		
		1	9.40			0.45	0.10	0.42		
	Coping Concrete									
	Flagging Course									
	2nd Main Road Virupakshapura N/S	2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	13.30			0.15	0.10	0.40		
	S/S	2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	7.20			0.15	0.10	0.22		
	Vijaya Store main Road									
	E/S	2	15.00			0.20	0.10	0.60		
		2	13.50			0.20	0.10	0.54		
		2	15.00			0.20	0.10	0.60		
		2	13.20			0.20	0.10	0.53		
		2	15.00			0.20	0.10	0.60		
		2	13.00			0.20	0.10	0.52		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
	S/S									
		2	15.00			0.20	0.10	0.60		
		2	13.50			0.20	0.10	0.54		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	2.00			0.20	0.10	0.08		
	Thulasi Enclave									
	N/S	2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	15.00			0.20	0.10	0.60		
		2	8.50			0.20	0.10	0.34		
	S/S									

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Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
		2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	8.50			0.15	0.10	0.26		
	5th Main Road Dhanalakshmi layout N/S									
	E/S	2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	9.10			0.15	0.10	0.27		
	W/S	2	15.00			0.15	0.10	0.45		
		2	15.00			0.15	0.10	0.45		
		2	9.10			0.15	0.10	0.27		
	5th Main Road Dhanalakshmi layout S/S									
	E/S	2	15.20			0.15	0.10	0.46		
	Culverts									
	Coping Concrete									
	2nd Main Road Virupakshapura	1	7.20			1.50	0.10	1.08		
	KVS Layout Main Road	1	4.90			1.50	0.10	0.74		
	5th Main Road Dhanalakshmi Layout	1	4.90			1.50	0.10	0.74		
	Ramp						Av.			
	2nd Main Road Virupakshapura	2	7.20			1.00	0.15	2.16		
	KVS Layout Main Road	2	4.90			1.00	0.15	1.47		
	5th Main Road Dhanalakshmi Layout	2	4.90			1.00	0.15	1.47		
			Total Qty =					**32.46**		
			Qty Ltd to Tender Qty =					**32.19**	4670.38	**150340.00**

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Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
	Measurements Recarded on :	30/06/22								
8	Providing **precast slab of 100 mm thick** including cost of all materials, labour, curing, transportation, loading unloading, etc., complete as per the direction of engineer in charge- Data rate.								Sqm	
	12th Cross BEL Layout									
	5th Main Dhanalakshmi Layout E/S	25	0.60			0.75		11.25		
	Vijaya Store Road E/S	47	0.60			0.90		25.38		
		47	0.60			0.90		25.38		
		15	0.60			0.90		8.10		
		27	0.60			0.90		14.58		
	W/S	47	0.60			0.90		25.38		
		4	0.60			0.90		2.16		
		15	0.60			0.90		8.10		
		21	0.60			0.90		11.34		
	2nd Main Road Virupakshapura									
	N/S	25	0.60			0.90		13.50		
		8	0.60			0.90		4.32		
		10	0.60			0.90		5.40		
	S/S	32	0.60			0.90		17.28		
		10	0.60			0.90		5.40		
		12	0.60			0.90		6.48		
		7	0.60			0.90		3.78		
	Thulasi Enclave									
	N/S	46	0.60			0.90		24.84		
	S/S	45	0.60			0.90		24.30		
		18	0.60			0.90		9.72		
	Sampige Main Road @ Apartment									
		40	0.60			0.90		21.60		
			Total Qty =					**268.29**		
			Qty Ltd to Tender Qty =					**268.20**	1949.06	**522738.00**

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Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
	Measurements Recarded on :	30/06/22								
9	Providing **precast slab of 250 mm thick** including cost of all materials, labour, curing, transportation, loading unloading, etc., complete as per the direction of engineer in charge- Data rate.								Sqm	
	2nd Main Road Virupakshapura	14	1.50			0.60		12.60		
	KVS Layout Main Road	8	1.50			0.60		7.20		
	5th Main Road Dhanalakshmi Layout	8	1.50			0.60		7.20		
			Total Qty =					**27.00**		
			Qty Ltd to Tender Qty =					**24.30**	4518.61	**109802.00**

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Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
	Measurements Recarded on :	08/07/22								
10	Scarifying bituminous course 50mm to 75mm thick along with premix carpet / surface dressing by manual means without disturbing the base and stacking of the debris materials including cost of all labour charges complete as per specifications.								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 06 is =							**357.75**	79.56	**28463.00**
11	Providing, laying, spreading and compacting crushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed method of tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications.								Cum	
	Qty as per Premeasurement vide E-MB Page No. 07 is =							**82.28**	1669.07	**137331.00**
12	Providing and applying primer coat with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications.								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 08 is =							**357.75**	28.29	**10121.00**
13	Providing and laying **bituminous macadam** on prepared surface with crushed coarse aggregates as per design mix formula for base / binding course including loading of aggregates with F.E. loader, hot mixing of stone aggregates and bitumen in hot mix plant, transporting the mixd material in tipper to paver and laying mixed materials with paver finisher to the required level and grade, rolling by power roller to achieve the desired density, but excluding cost of primer / tack coat including lead, lift and cost of all materials, labour, HOM of machineries complete as per specifications. MORTH /Chapter 5 - using **40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 3.3 % VG-30 Bitumen**								Cum	
	Qty as per Premeasurement vide E-MB Page No. 09 is =							**17.89**	5643.71	**100966.00**
14	Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatment including cost of all materials, labour, HOM of machineries complete as per specifications.								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 10 is =							**1431.00**	4.42	**6325.00**
15	Providing and applying tack coat using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.								Sqm	
	Qty Vide Item No. 14							**1431.00**		
								1431.00	10.61	**15183.00**
16	Providing and laying **bituminous concrete 40 mm thick** with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - **using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-30 Bitumen**								Cum	
	Dhanalakshmi Layout 5th Main Road									
	Sampige Main Road to Dead End N/S	1	12.70	3.80	4.20	4.00	0.040	2.03		
		1	15.00	3.20	4.20	3.70	0.040	2.22		
		1	13.40	4.20	4.20	4.20	0.040	2.25		
	Sampige Main Road to Dead End S/S	1	13.50	4.50	5.00	4.75	0.040	2.57		
		1	18.70	4.60	5.10	4.85	0.040	3.63		
		1	14.70	4.30	3.80	4.05	0.040	2.38		
	2nd Main Road Virupakshapura									
		1	15.00	5.20	4.90	5.05	0.040	3.03		
		1	15.00	4.90	5.00	4.95	0.040	2.97		
		1	15.00	5.00	6.50	5.75	0.040	3.45		

Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
		1	4.60	6.50	6.80	6.65	0.040	1.22		
	1st Main Road Virupakshapura									
		1	15.00	5.50	5.60	5.55	0.040	3.33		
		1	15.00	5.60	4.60	5.10	0.040	3.06		
		1	15.00	4.60	5.10	4.85	0.040	2.91		
		1	15.00	5.10	5.20	5.15	0.040	3.09		
	Thulasi Enclave									
	Vijaya Store Road to Dead End	1	15.00	5.80	5.10	5.45	0.040	3.27		
		1	15.00	5.10	5.20	5.15	0.040	3.09		
		1	15.00	5.20	4.80	5.00	0.040	3.00		
		1	15.00	4.80	5.50	5.15	0.040	3.09		
		1	15.00	5.50	5.40	5.45	0.040	3.27		
		1	15.00	5.40	5.00	5.20	0.040	3.12		
		1	9.50	5.00	5.80	5.40	0.040	2.05		
	Deduct Chambers	-5	3.14			0.90	0.040	-0.57		
		-4	1.00			0.70	0.040	-0.11		
			Total Qty =					**58.36**		
			Qty Ltd to Tender Qty =					**57.24**	8340.92	**477434.00**

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Sl No.	Description	No.	L	B1	B2	Av.,B	D	Qty	Rate / Unit	Amount
	Measurements Recarded on :		12/07/22							
17	Road Marking with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface:- Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications.								Sqm	
	Road Marking									
	Dhanalakshmi Layout 5th Main Road									
	Sampige Main Road to Dead End N/S	2	12.70			0.10		2.54		
		2	15.00			0.10		3.00		
		2	13.40			0.10		2.68		
	Sampige Main Road to Dead End S/S	2	13.50			0.10		2.70		
		2	18.70			0.10		3.74		
		2	14.70			0.10		2.94		
	2nd Main Road Virupakshapura									
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	4.60			0.10		0.92		
	1st Main Road Virupakshapura									
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
	Thulasi Enclave									
	Vijaya Store Road to Dead End	2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	9.50			0.10		1.90		
		2	15.00			0.10		3.00		
		2	8.00			0.10		1.60		
				Total Qty =				64.02		
				Qty Ltd to Tender Qty =				63.60	379.25	24120.00
	Sub Total									2233712.00
	GST @ 12%									268045.00
									Total	2501757.00

Assistant Engineer
Ward No. 09

Assistant Executive Engineer
Vidyaranyapura Sub Division

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97